MEMORANDUM **(LABORATORY DATA REPORT)**

EPA - General Parameters

		In reply refer to:	10-KH74
To:	Rick Wilkin	**From:**	Kristie Hargrove
		Lab:	General Parameters
Thru:	Cindy Paul Mark White Lisa Costantino	**Date:**	10/14/2010
Technical Directive No.:	EPAGP216	**Originator:**	Rick Wilkin
Task No.:	23993	**Copies:**	Rick Wilkin Cindy Paul Lisa Costantino Kristie Hargrove

Sample Site/Project:	Pavillion Groundwater		
Date Collected:	10/5-10/7/2010	**Sample Set No.:**	5763
Date Received:	10/8/2010	**Sample Matrix:**	water
Date Analyzed:	10/13/2010	**Analysis Type:**	$NO_2 + NO_3$, NH_4
No. Samples Analyzed:	9	**Sample Preparation:**	none

Method(s) Used : Nitrate+Nitrite Lachat FIA 10-107-04-2-A
Ammonia Lachat FIA 10-107-06-1-A
RSKSOP-214, rev. 5 - Quality Control Procedures for General Parameters using Lachat Flow Injection Analyses

Comments:

Quality control measures performed along with your samples included analysis of method blanks, sample matrix spikes, laboratory sample duplicates, calibration check standards, and second-source quality control samples as outlined in RSKSOP-214, revision 5. MDL's were determined on 1/14/2010. Note: No sample was received for Field Sample ID LD 02 DUP. **This letter is being issued a second time due to an error in the Sample ID column on the data page. The sample ID for sample 5763-6 has been corrected. The corrected sample ID for sample 5763-6 is RD01 Field Blank. This letter should supursede the previous letter issued.**

EPA - General Parameters
Analytical Results Report

Laboratory: General Parameters **Report Date:** 10/14/10

Technical Directive: EPAGP216

Analyst: Kristie Hargrove

Sample Results

Analytes	Nitrate+Nitrite-N (NO_3+NO_2-N)	Ammonia-N (NH_4-N)	
Codes	00630	6484-52-2	
Methods	FIA 10-107-04-2-A	FIA 10-107-06-1-A	
Unit	mg/L	mg/L	
MDL	0.005	0.014	
QL	0.100	0.100	

Field Sample ID	Lab Sample ID	Date Collected	Date Analyzed	Data	DF	Data	DF	Data	DF
RD 01	5763-1	10/5/2010	10/13/2010	0.231	1	BQL (0.087)	1		
EPAMW 01	5763-2	10/6/2010	10/13/2010	0.150	1	4.61	1		
EPAMW 02	5763-3	10/6/2010	10/13/2010	0.379	1	1.95	1		
LD 01	5763-4	10/6/2010	10/13/2010	0.354	1	0.199	1		
LD 01 DUP	5763-5	10/6/2010	10/13/2010	0.337	1	0.164	1		
RD 01 FIELD BLANK	5763-6	10/5/2010	10/13/2010	0.422	1	ND	1		
TRIP BLANK	5763-7	10/6/2010	10/13/2010	BQL (0.018)	1	ND	1		
EQ BLK	5763-8	10/7/2010	10/13/2010	0.265	1	ND	1		
LD 02	5763-9	10/7/2010	10/13/2010	BQL (0.076)	1	0.207	1		
LD 02	5763-9 LAB DUP	10/7/2010	10/13/2010	BQL (0.076) (RPD=NA)	1	0.208 (RPD=0.482)	1		
LD 02 DUP*	5763-10	10/7/2010	10/13/2010	-	-	-	-		

Comments:

The data quality objective for the precision of sample duplicates is a relative percent difference (RPD) of < 10%, which was met for this set of samples, that are within the calibration range. The MDL's for NO_3+NO_2 and NH_4 were determined on 1/14/2010. * Note: No sample was received for Field Sample ID LD 02 DUP

Notes:

1. If the parameter was detected above the quantitation limit (**QL**), the numeric result is reported; **BQL** denotes that the parameter was not detected at or above the quantitation limit; **BQL ( )** denotes that the parameter was detected above the method detection limit (**MDL**) but below **QL** and the estimated numeric result is reported in parenthesis; **ND** denotes that the parameter was not detected at all. All the results are corrected with dilution factors (**DF**), if applicable. **NA** means not applicable.

EPA - General Parameters
Analytical Results Report

Laboratory: General Parameters

Report Date: 10/14/10

Tech. Directive: EPAGP216

Analyst: Kristie Hargrove

Quality Control Data Summary

Analytes	Nitrate+Nitrite-Nitrogen(NO_3+NO_2-N)	Ammonia-N (NH_4-N)	
Codes	00630	6484-52-2	
Methods	FIA 10-107-04-2-A	FIA 10-107-06-1-A	
Unit	mg/L	mg/L	
MDL	0.005	0.014	
QL	0.100	0.100	

QC Sample ID	Additional ID	Date Prepared	Date Analyzed	Data	True Value	% REC.	Data	True Value	% REC.			
MB	Blank Nanopure	10/13/2010	10/13/2010	BQL (0.014)	-	-	ND	-	-			
MB	Blank Nanopure	10/13/2010	10/13/2010	BQL (0.015)	-	-	ND	-	-			
SS	ERA # 46	6/7/2010	10/13/2010	3.12	3.04	103	5.19	5.73	90.6			
SS	ERA # 46	6/7/2010	10/13/2010	3.17	3.04	104	5.33	5.73	93.0			
CCC	Calibration Check Standard	9/17/2010	10/13/2010	BQL (0.096)	0.100	96.0	BQL (0.091)	0.100	91.0			
CCC	Calibration Check Standard	9/17/2010	10/13/2010	1.00	1.00	100	1.01	1.00	101			
CCC	Calibration Check Standard	9/17/2010	10/13/2010	0.498	0.500	99.6	0.473	0.500	94.6			
CCC	Calibration Check Standard	9/17/2010	10/13/2010	4.99	5.00	99.8	4.69	5.00	93.8			
CCC	Calibration Check Standard	9/17/2010	10/13/2010	9.67	10.0	96.7	9.72	10.0	97.2			
MS	RD 01 SPIKE	10/13/2010	10/13/2010	5.20	0.231 (4.95)	100	4.50	BQL (0.087) (4.95)	89.2			

Comments:

The data quality objective for the accuracy of continuing calibration check standards is 90-110% recovery. The data quality objective for the ERA #46 (second source standards) is 81.3-117% for NO_2 + NO_3, and 72.9-127% for NH_4. These objectives were met for the standards. *The matrix spike was prepared by adding 50 uL of a 500 mg/L standard into 5 mL of sample yielding a spike concentration of 4.95 mg/L. The matrix spike recovery was calculated according to the equation: % Recovery = 100 x (Spiked sample concentration (DATA) - Native sample concentration)/Spike concentration.

Notes:

1. **MB** - Method Blank. **CCC** - Continuing Calibration Check. A calibration standard analyzed within the batch of samples. **LCS** - Laboratory Control Spike. A laboratory blank spiked with analytes at known concentrations. **MS** - Matrix Spike. A field sample spiked with known concentrations of analytes. The field sample id is identified. The True Value column for matrix spikes list the unspiked native sample concentration along with the spike concentration in parentheses. **SS** - Samples obtained from the second sources are identified by their designated names. **DUP** - Field sample duplicate analysis. A sample selected by the lab analyst to analyze as a duplicate. It is reported in the sample result section. **%REC** - Percent Recovery. Calculated as the percentage of the results to the true values. It equals to % accuracy for CCC.